

INTERNATIONAL SEARCH REPORT

International Application No

PCT/CH2005/000120

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 B21F33/04

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 B21F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 014 371 A (WALKER ET AL) 29 March 1977 (1977-03-29)	1,2,7,8
Y	column 2, line 31 - line 61; figure 2 -----	3-6,9-16
X	US 2 788 119 A (STURM HELMUT) 9 April 1957 (1957-04-09)	1,2,7,8
	column 2, line 54 - line 60; figures 1,2 -----	
A	US 5 788 051 A (KNOEPFEL ET AL) 4 August 1998 (1998-08-04) cited in the application column 3, line 64 - column 4, line 2; figures -----	1,7,15
A	US 3 386 561 A (SPUHL WALTER) 4 June 1968 (1968-06-04) column 4, line 38 - column 5, line 75; figures 8-11 -----	1-12,15, 16
	-/--	

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

* Special categories of cited documents:

A document defining the general state of the art which is not considered to be of particular relevance

E earlier document but published on or after the international filing date

L document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

O document referring to an oral disclosure, use, exhibition or other means

P document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

Z document member of the same patent family

Date of the actual completion of the international search

15 June 2005

Date of mailing of the international search report

06/07/2005

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Barrow, J

INTERNATIONAL SEARCH REPORT

International Application No
PCT/CH2005/000120

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2003/075232 A1 (ARONSON TERRY) 24 April 2003 (2003-04-24) paragraph '0011! paragraph '0046! - paragraph '0048!; figures 1,8 -----	5,6,11, 12
Y	US 6 159 319 A (MOSSBECK ET AL) 12 December 2000 (2000-12-12) column 6, line 37 - line 41 column 8, line 40 - column 9, line 19; figures 5-14 -----	13,14
Y	US 3 193 136 A (STUMPF WALTER ET AL) 6 July 1965 (1965-07-06) column 13, line 39 - line 62; figures 2,26 -----	3,4,9, 10,15,16

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/CH2005/000120

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 4014371	A	29-03-1977	GB 1461671 A	19-01-1977
			BE 824102 A1	02-05-1975
			FR 2257539 A1	08-08-1975
			IT 1026299 B	20-09-1978
			SE 7500212 A	11-07-1975
US 2788119	A	09-04-1957	NONE	
US 5788051	A	04-08-1998	DE 19542844 A1	22-05-1997
			DE 59604752 D1	27-04-2000
			EP 0774310 A1	21-05-1997
			ES 2145962 T3	16-07-2000
			JP 3313596 B2	12-08-2002
			JP 9225751 A	02-09-1997
US 3386561	A	04-06-1968	DE 1552150 A1	12-02-1970
			GB 1152072 A	14-05-1969
US 2003075232	A1	24-04-2003	WO 03035304 A1	01-05-2003
US 6159319	A	12-12-2000	US 5885407 A	23-03-1999
			AU 6139399 A	17-04-2000
			WO 0018515 A1	06-04-2000
US 3193136	A	06-07-1965	NONE	